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INTEGRATED 4-CHANNEL AMPLIFIER

SANSUI QA7000

INTEGRATED 4-CHANNEL/2-CHANNEL STEREO AMPLIFIER SANSUI QA-7000 You have a choice. And Sansui's superb new QA-7000 integrated 4-channel/2-channel stereo amplifier makes it an easy one. There's no longer any doubt that the excitement of 4-channel sound is a practical reality. Sansui has led in its development from the beginning—first by creating the original QS regular matrix system, then the QS vario-matrix, and later, the QS 2-4 Synthesizer Encoder, Phase Matrix and other advanced techniques to allow you to reproduce authentic 4-channel sound from any 4- or 2-channel stereo source. Now ALL these outstanding developments are wrapped up in one powerful, professional-class integrated amplifier of the highest technical standards—the distinguished QA-7000 for 4-channel AND 2-channel use.

Every aspect of the QA-7000 is engineered to provide total excellence of audio fidelity as well as the widest possible versatility. The unit's most unique feature allows you to combine its four separate all-stage direct-coupled OCL pure complementary amplifiers by means of an elaborate bridging circuit to provide more than double the power per channel in 2-channel use. Its control functions, too, are unique. Four professional VU meters, an input level control, separate left/right balance controls for front and rear channels, a 7-position function control, front/rear bass and treble controls, loudness, and a complete system for tape reprints, monitoring and much more. Rear panel inputs accept two 2-channel phonos, a 4-channel tuner, two 4-channel AUX, one 2-channel and TWO 4-channel tape decks, etc. In full 4-channel OR 2-channel use, your choice is an easy one—the incomparable Sansui QA-7000.

Sansui

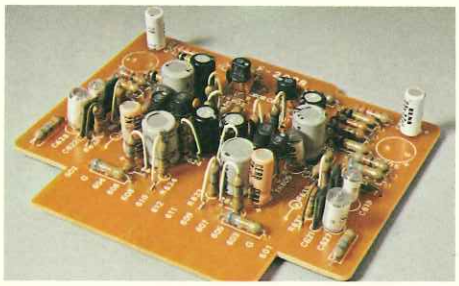
Not Just "Realistic" but *Real* Sound Field Fidelity

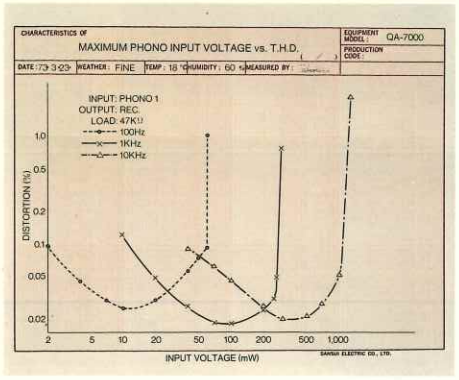
4-CHANNEL PREAMPLIFIER SECTION

3-STAGE DIRECT-COUPLED PHONO EQUALIZER AMPLIFIER FOR STABLE, TRANSPARENT DISC REPRODUCTION

One of the most delicate and critical elements of any integrated amplifier is its phono equalizer. The three-stage PNP-NPN-PNP direct-coupled equalizer amplifier in the QA-7000 offers not only ample phase margin in the audible range but far outside the audible frequencies as well. The result is an exceptionally stable response and transparent reproduction of transient signals for full-range disc playback.

The equalizer's elaborate design derives a high (44V) voltage from an equally advanced constant-voltage power supply circuit combining three transistors, allowing it to accept phono input signals up to 270mV RMS (1kHz, THD 0.5%). This provides a dynamic margin of nearly 100 times (40dB) the input throughout the entire 30 to 15,000Hz range.





Carefully chosen resistors and capacitors in the equalizer allow it to maintain accurate replay characteristics of within ±0.5dB of the RIAA disc reproduction curve over the 30 to 15,000Hz range.

PNP-NPN TONE CONTROL AMPLIFIER FEATURES WIDE DYNAMIC RANGE

The two-stage, direct-coupled, 4-transistor tone control amplifier assures superior characteristics in the bass and treble frequency ranges due to the PNP-NPN configuration in its initial stages. After the signal amplitude is substantially increased, the second stage takes over to operate the master volume control. This electronic teamwork provides extra wide dynamic range with a very high signal-to-noise ratio and dependable tone control response over the entire audio spectrum.

EMITTER-FOLLOWER OUTPUT STAGE AND TRANSIENT CANCELLER

The output stage of the QA-7000's preamplifier section is an advanced emitter-follower circuit with low output impedance for optimum operation. Speaker-damaging "popping" noise, which you normally hear when you turn on the power switch of an amplifier, is effectively eliminated by a special relay-equipped transient canceller.

CONSTANT-VOLTAGE POWER SUPPLY FOR PERMANENT STABILITY

No fewer than five transistors and a zener diode are employed in the constant-voltage power supply to do away with all forms of power-related instability.

TAPE CIRCUITS ALLOW VERSATILE 4-CHANNEL RECORDING OPERATIONS

Two complete sets of 4-channel tape deck inputs are provided to allow the QA-7000 to serve as your complete tape recording control center. Tape-to-tape reprints in 2- or 4-channel can be made from one deck to another; any 2- or 4-channel source can be recorded on either or both simultaneously. And most surprising of all, these circuits allow you to take advantage of the built-in QS 2-4 Synthesizer to record authentic 4-channel sound recreated from any conventional 2-channel stereo source. There's also a complete set of inputs and a front panel monitor control for a 2-channel tape deck.

4-CHANNEL CONTROLS CUSTOMIZE ROOM ACOUSTICS AT A TOUCH

No cost-cutting "all-in-one" controls here. Included are separate front and rear tone controls for bass and treble, separate left/right balance controls for front and rear channels, an over-sized master volume control and even a master 4-channel loudness contour control.

4-CHANNEL HEADPHONE JACKS

Two stereo headphone jacks on the front panel are provided, one for the front left/right channels, one for the rear pair. To hear 2-channel sound only, the front-channel jack is used.

PROFESSIONAL VU METERS AND INPUT LEVEL SET CONTROL

The unique level set control on the QA-7000 front panel regulates the input level of all incoming signals. The four large, professional type VU meters allow you to monitor signal input levels. Two of these brightly illuminated meters are off when the QA-7000 is operated in the 2-channel stereo mode.

COMPLETE INPUT AND OUTPUT FACILITIES

The QA-7000 offers an unusually wide and practical system of input and output jacks and terminals. Included are complete left/right sets of inputs and/or outputs for 1) two 2-channel PHONO sources; 2) two 4-channel AUX units; 3) one 2-channel TAPE DECK in recording and playback operation; 4) one 4-channel TUNER, and 5) two complete 4-channel TAPE DECKS in recording and playback operation. If it is

necessary to use the QA-7000 for connecting two 2-channel sources, either or both the front or rear channel inputs and outputs may be used individually.

Additionally, the pre- and power amplifier sections of the QA-7000 can be instantly separated to allow insertion of other audio instruments between them.

4-CHANNEL POWER AMPLIFIER SECTION

ALL-STAGE DIRECT-COUPLED OCL PURE COMPLEMENTARY AMPLIFIER WITH DIFFERENTIAL AMPLIFIER AND PLUS/MINUS DUAL POWER SUPPLY

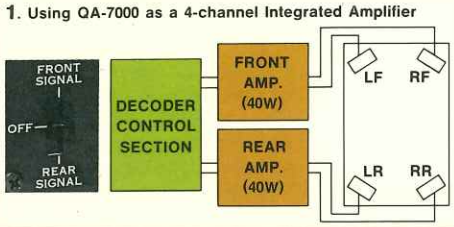
The QA-7000's 4-channel power supply section employs a jumbo power transformer and a pair of oversized 10,000μF capacitors in an advanced plus/minus dual power supply system. All-stage direct-coupled OCL pure complementary power amplifiers, equipped with a first-stage differential amplifier, ensures that its damping factor, frequency response and distortion characteristics remain good over a very wide frequency range. Crossover distortion is effectively eliminated. RMS continuous power output is 20W/20W/20W/20W in 4-channel use into 8 ohms, each channel driven, at 1kHz. Critical intermodulation distortion is an excellent 0.15% or less at rated output.

BTL SWITCH COMBINES FOUR POWER AMPLIFIERS FOR EXTRA-POWER IN 2-CHANNEL USE

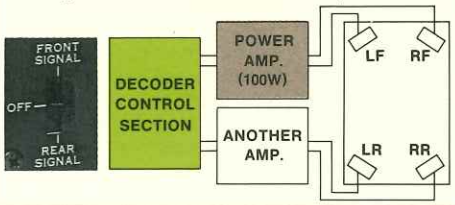
The rear panel BTL (Balanced Transformer-Less) switch allows you to convert the QA-7000 from 4-channel to 2-channel stereo use with more than double power capabilities by bridging each pair of front and rear power amplifiers. By moving this simple switch and changing speaker connections, the QA-7000 becomes 1) a regular 4-channel integrated amplifier with 20W x 4 power output, or 2) a 2-channel stereo amplifier with 50W x 2 power output, or 3) a 4-channel front-channel amplifier, also with 50W x 2 power output, to which can be connected—through the 4-channel decode/control section—a separate 2-channel amplifier for the rear channels, or 4) a 4-channel rear-channel amplifier, also with 50W x 2 power output, for use with a separate 2-channel front-channel amplifier as in 3) above.

OPERATION MODES

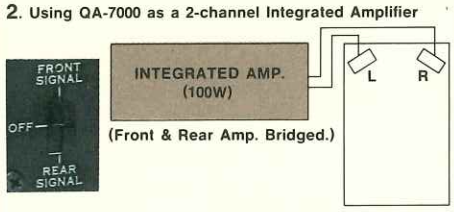
1. Using QA-7000 as a 4-channel Integrated Amplifier



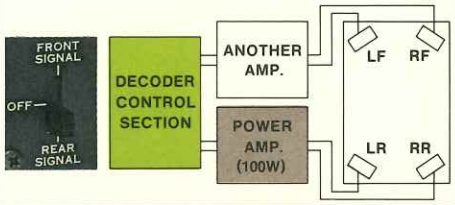
3. Using QA-7000 as a 4-channel Front Amplifier



2. Using QA-7000 as a 2-channel Integrated Amplifier

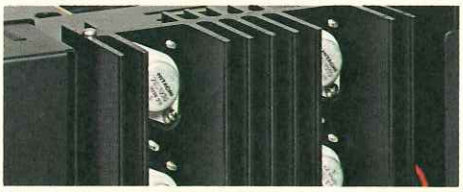


4. Using QA-7000 as a 4-channel Rear Amplifier



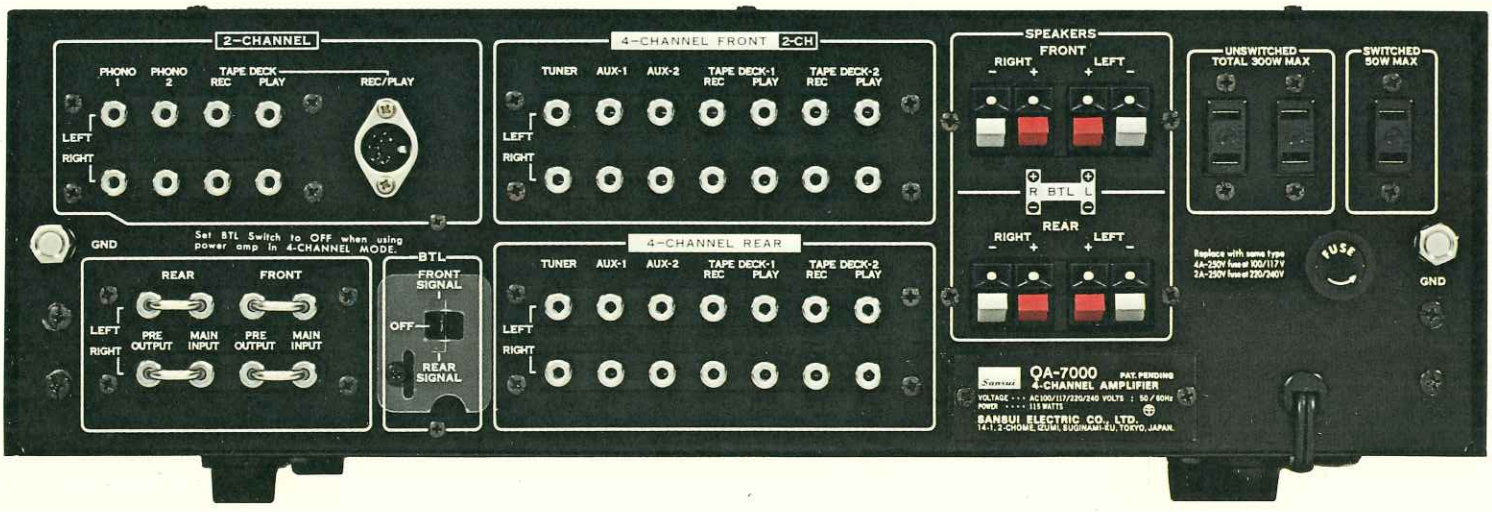
PERFECT PROTECTION OF SPEAKERS AND POWER TRANSISTORS

The QA-7000 is equipped with a special protector circuit to prevent damage to power transistors and speakers in the event of irregularities. To further improve the operation and safety of the power amplifier, super-jumbo heat sinks (see photo) are provided.



MATCHING FM/AM STEREO TUNER TU7500

The Sansui TU-7500 FM/AM Stereo Tuner is designed not only to equal the excellent performance standards of the QA-7000 but also to match its dimensions exactly so that the two may be placed side by side or stacked to form an attractive 4-channel control center.



QS SYNTHESIZER DECODER SECTION

Together they are called the QS regular matrix system—a simple way to present the entire range of sophisticated 4-channel innovations developed for use in the popular Sansui lineup of 4-channel high fidelity equipment. This impressive 4-channel technique includes: 1) a square decoding matrix and plus/minus 90-degree phase shifters; 2) new QS vario-matrix bringing inter-channel separation to a par with discrete 4-channel tape; 3) Sansui's unique QS Synthesizer, now featuring a 2-4 Synthesizer Encoder, to convert any 2-channel source into full 4-channel sound, and, 4) the Phase Matrix circuit which takes advantage of the QS vario-matrix to decode SQ* records. The Function control on the QA-7000 handles them all:

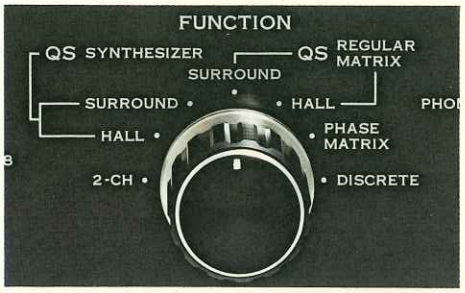
2-CHANNEL: Conventional 2-channel stereo sources are reproduced from the front two speakers only.

QS SYNTHESIZER—HALL: Brings 4-channel realism to 2-channel sources. Natural-sounding concert hall ambience is recreated from the rear speakers; "on stage" sounds from the front.

QS SYNTHESIZER—SURROUND. Full 4-channel sound field from 2-channel sources appears to come from all around the listener as if he were in the middle of the orchestra.

QS REGULAR MATRIX—HALL: For decoding QS-encoded 4-channel sources (discs, tapes, FM) for full concert hall richness. Best for full orchestras, big band jazz, etc.

QS REGULAR MATRIX—SURROUND: The rotationally symmetrical configuration of the square matrix is ideal, enabling the recording engineer to place any particular sound in any specific part of the realistic sound field around the listener. Best for 360° listening to pop,



rock, mood music and live recordings.

PHASE MATRIX: Excellent front/rear separation from CBS SQ* matrix-encoded discs for 4-channel realism.

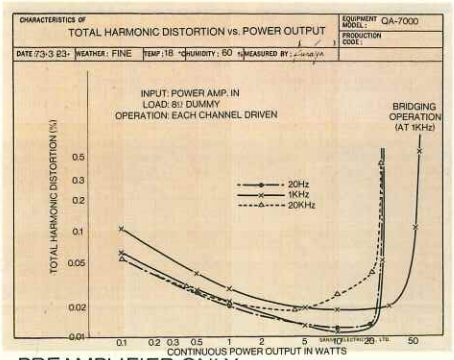
DISCRETE: This mode allows you to hear whatever 4-channel sound source is fed into the various discrete 4-channel inputs in the QA-7000.

*SQ is a trademark of Columbia Broadcasting System, Inc.

SPECIFICATIONS

POWER OUTPUT (at rated distortion)
MUSIC POWER (IHF) (at 1,000Hz)
108W (4Ω)
88W (8Ω)
BTL operation 166W (4Ω)
144W (8Ω)
CONTINUOUS POWER (at 1,000Hz)
each channel driven
24W × 4 (4Ω)
20W × 4 (8Ω)
BTL operation 50W × 2 (8Ω)
four channels driven (at 1,000Hz)
15W × 4 (8Ω)
BTL operation 40W × 2 (8Ω)
four channels driven (at 20—20,000Hz)
12W × 4 (8Ω)

TOTAL HARMONIC DISTORTION
(at rated power output)



PREAMPLIFIER ONLY
less than 0.05%
POWER AMPLIFIER ONLY
less than 0.1%
BTL OPERATION POWER AMPLIFIER ONLY
less than 0.3%

INTERMODULATION DISTORTION
(at rated power output)
70Hz:7,000Hz=4:1 SMPTE method)
POWER AMPLIFIER ONLY
less than 0.15%
BTL OPERATION POWER AMPLIFIER ONLY
less than 0.5%

POWER BANDWIDTH (IHF)
(each channel driven at rated distortion)
10—30,000Hz

FREQUENCY RESPONSE (power output at 1W)
POWER AMPLIFIER ONLY
10—50,000Hz ±1dB
OVERALL (from AUX)
20—40,000Hz +1dB, −2dB

RIAA CURVE DEVIATION
PHONO-1 AND-2 30—15,000Hz ±0.5dB

LOAD IMPEDANCE 4—16Ω

DAMPING FACTOR approx. 100
at 8Ω dummy load

INPUT SENSITIVITY AND IMPEDANCE
(at 1,000Hz)
PHONO-1 AND-2 2.5mV (50kΩ)
maximum input capability 270mV RMS
(T.H.D.:less than 0.5%)
4-CH TUNER 100mV (50kΩ)
4-CH AUX-1 AND-2 100mV (50kΩ)
2-CH TAPE MONITOR (pin) 100mV (50kΩ)
2-CH TAPE MONITOR (DIN) 100mV (50kΩ)
4-CH TAPE MONITOR -1 AND-2 (pin)
100mV (50kΩ)
POWER AMPLIFIER ONLY 800mV (50kΩ)

OUTPUT LEVEL AND IMPEDANCE
2-CH TAPE REC (pin) 100mV (2kΩ)
2-CH TAPE REC (DIN) 30mV (65kΩ)
4-CH TAPE REC-1 AND-2 (pin)
100mV (2kΩ)
PREAMPLIFIER 800mV (600Ω)
maximum output voltage 6.5V
(T.H.D.:less than 0.5%)

HUM AND NOISE (IHF)
PHONO-1 AND-2 better than 70dB
4-CH TUNER better than 80dB
4-CH AUX-1 AND-2
better than 80dB
POWER AMPLIFIER ONLY
better than 90dB

CONTROLS
VOLUME
LEVEL SET
FRONT-REAR BALANCE
LEFT-RIGHT BALANCE
(F & R friction-coupled type)
BASS +15dB, −15dB at 50Hz
TREBLE +15dB, −15dB at 15,000Hz
LOUDNESS +8dB at 50Hz,
+3dB at 10,000Hz
(volume control at −30dB)

SYNTHESIZER/DECODER
QS regular matrix system
with QS vario-matrix circuit

LEVEL METER READING
0dB at 100mV

SEMICONDUCTORS
97 Transistors, 2 FET's
62 Diodes, 2 Zener Diodes

POWER REQUIREMENTS
100/117/220/240 V 50/60Hz

AC-OUTLETS 50VA (switched)
300VA (unswitched)

POWER CONSUMPTION
115W (rated), 340 VA (max.)

DIMENSIONS 440mm (17⅜")W × 140mm (5⁹⁄₁₆")H × 322mm (12¹¹⁄₁₆")D

WEIGHT 14kg (30.9 lbs.)

Design and specifications subject to change without notice for improvements.

SANSUI ELECTRIC CO., LTD. 14-1, 2-CHOME, IZUMI, SUGINAMI-KU, TOKYO 168, JAPAN/TELEPHONE: 323-1111/TELEX: 232-2076
SANSUI ELECTRONICS CORPORATION 55-11 QUEENS BLVD. WOODSIDE, NEW YORK 11377, U.S.A./TELEX: NEW YORK 422633 SEC UI
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